

CLAIMS

LISTING OF CLAIMS

1. (Previously Presented) A compensating shaft for reciprocating piston engines comprising at least one compensating weight with an eccentric center of gravity, the compensating weight being connected torsionally elastically to the compensating shaft, wherein the compensating weight surrounds the compensating shaft with its edge zones and a window is formed therebetween in the longitudinal direction, in which an elastic element is provided, which is supported on the compensating shaft in the circumferential direction.

2. (Original) The compensating shaft as claimed in claim 1, wherein the elastic element is a spring damper unit.

3. (Original) The compensating shaft as claimed in claim 1, wherein the elastic element is made of plastic.

4. (Previously Presented) The compensating shaft as claimed in claim 3, wherein the elastic element is made of plastic of elasticity which is graduated in the circumferential direction including a hard central part interconnecting with the compensating shaft which is firm in the circumferential direction, and a soft part bearing against the compensating weight.

5. (Previously Presented) The compensating shaft as claimed in claim 4, wherein the plastic part is manufactured by injection molding comprising a root projecting into a transverse bore of the shaft for interconnection therewith .

6. (Original) The compensating shaft as claimed in claim 5, wherein the root comprises a metal reinforcement.

7. (Previously Presented) A compensation shaft for a reciprocating piston engine, said compensation shaft comprising:

a compensation weight having an eccentric center of gravity and a longitudinal window;

a shaft rotatably supporting said compensation weight and having a variable rotational speed; and

a damping member disposed within said window and elastically coupling said compensation weight and said shaft and enabling relative rotation between said shaft and said compensation weight when said rotational speed of said shaft changes.

8. (Previously Presented) The compensation shaft of claim 7, wherein said damping member is a spring damper.

9. (Previously Presented) The compensation shaft of claim 8, wherein said spring damper is a plurality of spring dampers disposed around a perimeter of said shaft.

10. (Previously Presented) The compensation shaft of claim 8, wherein said spring damper includes a spring having a first end communicating with said shaft and a second end communicating with said compensation weight, said spring biasing relative rotation between said shaft and said compensation weight.

11. (Previously Presented) The compensation shaft of claim 10, wherein said spring damper further includes a stop having a first end fixed to said shaft and a second end and communication between said second end and said compensation weight limits relative rotation between said compensation weight and said shaft when said rotational speed of said shaft changes.

12. (Previously Presented) The compensation shaft of claim 7, wherein said compensation weight is a plurality of compensation weights and said damping member is a plurality of damping members, each of said plurality of damping members disposed within one of said windows.

13. (Previously Presented) The compensation shaft of claim 7, wherein said damping member is a plastic damping member having an elasticity.

14. (Previously Presented) The compensation shaft of claim 13, wherein said compensation weight has a closed cylindrical contour when said damping member is disposed in said window.

15. (Previously Presented) The compensation shaft of claim 13, wherein said damping member includes a first portion having a first elasticity and coupled to said shaft.

16. (Previously Presented) The compensation shaft of claim 15, wherein said damping member further includes a second portion disposed between said first portion and said compensation weight and having a second elasticity.

17. (Previously Presented) The compensation shaft of claim 16, wherein said first elasticity is less than said second elasticity.

18. (Previously Presented) The compensation shaft of claim 15, wherein said shaft includes an aperture and said first portion includes a protrusion, said aperture receiving said protrusion and coupling said compensation weight to said shaft.

19. (Previously Presented) The compensation shaft of claim 18, wherein said first and second portions are injection molded in said window and said protrusion is simultaneously injection molded into said aperture.

20. (Previously Presented) The compensation shaft of claim 18, wherein said damping member further includes a reinforcing pin disposed in said protrusion.

21. (Previously Presented) The compensation shaft of claim 20, wherein said reinforcing pin is a metal reinforcing pin.